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10/538,522	06/10/2005	Michael Ganer	21295.0106US1 (E0664US)	3557
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/538,522

Applicant(s)

GANSER ET AL.

Examiner

Lee Fineman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 June 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8 May 2007 has been entered in which claim 1 has been amended. Claims 1-16 are pending.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 71. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. After further review of the amendments to the specification filed 24 July 2006, it is found that an objection is appropriate. The examiner regrets any inconvenience caused by this action.

4. The amendment to the specification filed 24 July 2006 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: "Because the attenuating element according to the invention is arranged in the illumination light beam on a plane that corresponds optically to the pupil plane of the lens--that is, on a Fourier plane of the pupil plane of the lens, which Fourier plane is to the focal plane of the imaging optics, lens--"

The original specification disclosed pupil plane (29)/focal plane of lens (17) as a Fourier plane. It also disclosed pupil plane (9) of imaging optics (27) as optically corresponding to pupil plane (29) and the attenuation elements (11, 13) are located on pupil plane (9). However, the amendment adds a Fourier plane at a focal plane of **the imaging optics** where the attenuation elements are located, which is new matter.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

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6. Claims 1-16 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The amended claim language includes the limitation “**imaging optics** disposed along the illumination beam path and **having a focal plane** which optically conjugates with the pupil plane **by being a Fourier plane of the pupil plane of the lens.**” However, the original specification only disclosed pupil plane (29)/focal plane of lens (17) as a Fourier plane. For the imaging optics, the specification only stated pupil plane (9) of imaging optics (27) as optically corresponding to pupil plane (29) and the attenuation elements (11, 13) are located on pupil plane (9). Therefore claiming a Fourier plane at a focal plane of **the imaging optics** is considered new matter. The dependent claims inherit the deficiencies of the claims from which they depend.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-2, 5-9, 11 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Nishi, US 2002/0036762 A1.

Regarding claim 1, Nishi discloses a reflected-light microscope (fig. 1) comprising: a light source (40) serving to generate an illumination light beam that can be directed through a lens (PL) along an illumination beam path (fig. 1) and onto a sample (W1 or W2), the lens having a pupil plane (EP, see page 14, section [0163]); imaging optics (60) disposed along the illumination beam path (fig. 1) and having a focal plane (at 61) which optically conjugates with the pupil plane (EP) by being a Fourier plane of the pupil plane of the lens (page 13, sections [0154]-[0155] and page 14, section [0163]); and at least one attenuation element (59) disposed in the focal plane of the imaging optics (60) along the illumination beam path (fig. 1), the attenuation element (59) comprising structure elements (see 59A-59F, fig. 7) and reducing an illumination light power over an entire cross-section of the illumination light beam by means of the structure elements (page 13, sections [0155]-[0158]).

Regarding claim 2, Nishi further discloses wherein at least one attenuation element (59) comprises a grate structure or a sieve structure or a pinhole pattern (59E, fig. 7).

Regarding claim 5, the lithography limitation of claim 5 is a product-by-process limitation and thus is not given significant patentable weight. In product-by-process claims, “once a product appearing to be substantially identical is found and a 35 U.S.C. 102/103 rejection [is] made, the burden shifts to the applicant to show an unobvious difference.” MPEP 2113. This rejection under 35 U.S.C. 102/103 is proper because the “patentability of a product does not depend on its method of production.” In re Thorpe, 227 USPQ 964, 966 (Fed. Cir. 1985).

Regarding claims 6 and 7, Nishi further discloses wherein at least one attenuation element (59) is arranged in a storage mechanism (61), which is a rotatable disk (fig. 7).

Regarding claim 8, Nishi further discloses wherein the storage mechanism (61) holds several attenuation elements that exhibit different degrees of attenuation (59A-F).

Regarding claim 9, Nishi further discloses wherein the storage mechanism (61) has a neutral position (59B) that permits file illumination light beam to pass through without being attenuated (see page 13, section [0157]).

Regarding claims 11 and 13, Nishi further discloses further comprising a drive mechanism (63) that controls the storage mechanism and a control mechanism (90) that controls the drive mechanism (see fig. 1).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishi.

Nishi discloses the claimed invention except for wherein the storage mechanism has a blocking position that blocks the illumination beam path. However, Nishi teaches an additional shutter (42) in fig. 1 to block the illumination light (see page 13, section [0161]). It would have been obvious to one of ordinary skill in the art at the time the invention was made to add a blocking position in the storage mechanism and remove the shutter to be able block the illumination while reducing the number of parts in the system and thereby save money.

11. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishi in view of Noguchi et al., US 6,485,891 B1.

Nishi discloses the claimed invention except for wherein at least one attenuation element is a color filter. Noguchi et al. teach a reflected-light microscope (fig. 27) including a color filter (3102) and an Hg lamp (3101). It would have been obvious to one of ordinary skill in the art at the time the invention was made to add a color filter attenuation element and replace the laser light source of Nishi with the lamp as taught by Noguchi et al. to have a more flexible system which can more easily provide illumination beams of different particular wavelengths.

12. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishi in view of Komatsuda et al., US 2004/0104359 A1.

Nishi discloses the claimed invention except for wherein at least one attenuation element is a diffusion disk. Komatsuda et al. teach a reflected-light microscope (fig. 1) including a diffusion disk (LS, see fig. 9 and page 11, section [0168]). It would have been obvious to one of ordinary skill in the art at the time the invention was made to add a diffusion disk attenuation element as taught by Komatsuda et al. to the system of Nishi to provide a more homogeneous illumination field.

13. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishi in view of Fay et al., US 5,006,488.

Nishi discloses the claimed invention except for the drive mechanism comprises a stepping motor. Fay et al. teach a drive mechanism that comprises a stepping motor (col. 4 lines

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6). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the stepping motor of Fay et al. as the drive mechanism in the system of Nishi to provide more precise rotation of the storage mechanism.

14. Claims 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishi in view of Watanabe et al., US 6,384,967.

Nishi discloses the claimed invention except for wherein the illumination light beam is automatically attenuated or blocked during lens/optical element changes. Watanabe et al. teach wherein the illumination light beam is automatically attenuated or blocked during lens/optical element changes (column 13, lines 11-44). It would have been obvious to one of ordinary skill in the art at the time the invention was made to program the controller of Nishi to provide the automation taught by Watanabe et al. to prevent any undesirable amount of light from being directed to the sample (Watanabe, abstract).

15. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishi in view of McCoy et al., US 5,838,450.

Nishi discloses the claimed invention except for wherein the reflected-light microscope is a fluorescence microscope. McCoy et al. teach a fluorescent reflected-light microscope (see the abstract and fig. 1) within an exposure apparatus (in at least so far as fluorescent light reflected on the sample). It would have been obvious to one of ordinary skill in the art at the time the invention was made to add a fluorescent light component as taught by McCoy et al. to the system of Nishi to provide more accurate wafer/reticle alignment (McCoy, column 2, lines 2-5).

Response to Arguments

16. Applicant's arguments with respect to claims 1-16 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lee Fineman whose telephone number is (571) 272-2313. The examiner can normally be reached on Monday - Friday 7:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephone B. Allen can be reached on (571) 272-2434. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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Patent Examiner
AU 2872
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